The HEAT is on – DIY home energy audit toolkits

We've developed a kit that home owners can use to assess their household energy use patterns. Currently 23 of the 29 Tasmanian councils have embraced the kits, and people are queuing up to borrow one free of charge. Small wonder – in some cases residents are able to reduce their power use by 25 per cent and realise savings of up to $500 a year!

Energy saving begins at home

Typically, heating and hot water account for 75 per cent of a home’s energy use. But every home is different, and it’s not a straightforward exercise to identify precisely where a home could be more energy wise. That’s why we decided to assemble the Home Energy Audit Toolkit (HEAT) – so anyone could look at their own home in detail and find ways to become more energy efficient.

Thinking big from the outset, we wanted to include as many Tasmanian councils as we could – pooling resources, and also sharing our 10 years worth of experience in climate change action with smaller councils who don't have the resources to dedicate to this kind of project. The Southern Tasmanian Councils Authority's Regional Climate Change Initiative was the perfect place to develop the project. Initially it was intended to pilot HEAT across the 12 councils of Southern Tasmania for 12 months; however, demand saw the project extended to 23 Tasmanian councils after only three months!

Energy audits aren’t new

The Federal Government has an energy audit scheme, but it requires a specialist to visit the home to provide advice. We wanted to enable people to do their own audit in their own time, under their own steam. We already knew, through earlier work with the University of Tasmania retrofitting a Council rental property, that the liveability and comfort levels of homes could be improved and energy use reduced by simple and cost effective actions – if households had the right information and tools to do so. So we explored the options.

We found that South Australia's Department for Transport, Energy and Infrastructure already had a take-home kit for the public to use, and they generously allowed us to redevelop the kit for our purposes. We then engaged Dr John Todd, who specialises in domestic energy use, to develop information and energy saving tips to suit Tasmanian households and climate, and we repackaged the kit.

What’s in a HEAT?

Each kit contains tools for energy use assessment.

- An energy meter called a Power Mate, which plugs into an ordinary three-pin plug and measures an appliance’s energy consumption (when in use and when on standby).
- An infrared radiometer, a nifty tool for checking for leaks around fridge doors and ceiling insulation.
Home Energy Audit Toolkit – Supporting communities to reduce their household energy use

The Home Energy Audit Toolkit (HEAT).

- A stopwatch for measuring water flow rates in showers and sinks.
- A compass, to work out a home’s orientation to the sun and where solar panels might be installed.
- A thermometer to measure temperatures in each room, in fridges and freezers, and of the hot water supply.
- Instructions on how to use the tools and lots of information, tips and tricks about how to act on the information collected.

We sold the kits to each of the participating councils at cost price. Each council makes the kits available to members of their municipality to take home, free of charge. With the kit comes a support package for council staff, with information about the tools, templates for media and marketing, replacement instructions, a spreadsheet for maintaining borrowing information, and promotional posters.

Each kit cost $500. We bought 89 kits for a total of $44,500. Assembling the kits and launching the idea took two people about three weeks.

Word of mouth – no need for advertising

HEATs have proven more popular than we’d hoped. Initially we advertised the kits in council newsletters and broadcast a Community Service Television ad; since then word of mouth has taken over and at one stage we had 150 people on the waiting list before we put together another 10 kits. Aurora energy is interested in the success of the project, and we’ve had enquiries from other Australian councils and community organisations.

Feedback is vital

Participating councils and households borrowing the kits have been invited to provide feedback on the kits and their experiences in using them. Essentially we’re looking for gaps in the process and for any way we can make the kits more useable and accessible, and for innovative ways to promote them. One avenue for improvement is in the quality of the supporting information; a score sheet to record a household’s results would be a useful inclusion, for example.

A project champion can make a big difference

While organising this collaborative effort we found it valuable to enlist the support of a champion within each council, someone in authority who’s prepared to coordinate lending the kits to their community and provide feedback on how they are being used. Another tip for councils and organisations outside of Tasmania is to be aware that every city or region has its own particular climate and demographics, and so it’s vital to do some tailoring to ensure the kits will be suitable.

What next?

We’re now developing a school project called ‘Taking it Home’. We are working with Kingborough Council, Snug Primary School and New Town High School to develop curriculum materials for years 5, 6, 8 and 9. The kits and curriculum materials will then be piloted in 2011 with Snug and Waimea Heights Primary Schools and New Town and Kingston High Schools throughout 2011. The kids will take home tools from the kits to do small auditing projects on their own homes with the view to engaging their family in the process; we strongly believe that getting kids excited about saving energy has a huge effect on the rest of the family.

HEATs were developed by the Hobart City Council under the auspices of the Southern Tasmania Council Authority’s Regional Climate Change Initiative (RCCI).